S&MA Mission Services
Task Directive

Control No.	ORG No.:	PROJECT CODE:	Contract No.
0075	QS20	SRB	NAS8-00179

Originator's Signature: Randall Tucker Randall H. Tucker	**Date:** 6/28/02	**Originator's Priority:** High
Office Manager's Signature: Alex Adams Alex Adams	**Date:** 7-1-02	
COTR's Approval: Terry J. H[illegible]	**Date:** 8-19-02	

Subject: Safety & Mission Assurance support for MSFC Space Shuttle Projects - **SRB**

Task Description:

System Safety Engineering (PWS Section 3.0)

1) Develop and utilize tools needed to assure that all safety requirements are identified including Fault tree analyses, logic trees and hazard analyses, etc
2) Assess Hazard Analyses and controls, develop and maintain safety analysis reports (SAR)
3) Support milestone reviews, safety reviews and readiness reviews to assure compliance with safety requirements
4) Assess proposed changes, deviations and waiver to assure compliance with safety requirements
5) Provide system safety expertise for Configuration Control Boards, (CCB), Problem Review boards, etc
6) Identify adverse safety trends and promptly notify MSFC S&MA
7) Provide safety assessments during launch countdowns and missions
8) Perform Safety Assessments for out-of-family issues, nonconformances, anomalies, hazards and PAR issues
9) Support Space Shuttle System Safety Review Panel (SSRP)

R&M (PWS Section 5.0)

1) Prepare R&M plans for MSFC developed designs and evaluate contractor R&M plans
2) Evaluate changes, out-of-family conditions, material review and deviations for impact to FMEAs CILs
3) Evaluate documents related to R&M to assure consistency and adequacy with project requirements
4) Evaluate OMRSDs and implementing OMIs
5) Participate in Project milestone reviews
6) Prepare reliability assessments in support of preflight assessment reviews and flight readiness milestone reviews
7) Perform design trade studies
8) Evaluate contractor R&M analyses
9) Perform ad hoc numerical R&M analyses
10) Develop and/or evaluate FMEAs and CILs fro compliance with requirements
11) Develop and utilize tools needed to assure that all applicable R&M requirements are identified for MSFC programs
12) Perform probabilistic risk assessments
13) Evaluate in-house and contractor methods for identification and control of limited life items
14) Evaluate engineering and programmatic changes for R&M impact
15) Evaluate in-house and contractor provided FMEA analyses of software design

Quality (PWS Section 6.0)

1) Prepare, evaluate and provide assessments of in-house and contracted quality related documentation
2) Perform periodic review and assessment of in-house and contracted quality related contractual documentation
3) Provide QE expertise for the preparation, evaluation and assessment of in-house and contractual documentation relative to processes encountered during manufacturing, inspection and test phases of projects
4) Participate in milestone reviews, evaluating quality assurance and certification requirement compliance
5) Develop and utilize any tools needed to assure that all QA requirements are identified for MSFC programs and projects
6) Prepare and evaluate workmanship standards, specifications, procedures and control documentation for in-house and contracted processes and purchases
7) Evaluate in-house inspection criteria for safety critical hardware and/or evaluate and provide assessments on other MSFC contractor or Government Agency inspection criteria

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Control No. 0075 **PROJECT CODE:** SRB **Contract No.** NAS8-00179

8) Provide Engineering Change Proposal Quality evaluations and support to Change Control Board members
9) Participate in the development and implementation of Quality training programs
10) Provide engineering change evaluation support, providing quality assurance assessments, change integration support and support to change package engineers, as required
11) Participate in verification programs providing evaluation of test results versus verification requirements and maintenance of certification records
12) Provide support to MRB members, recommend corrective action for nonconforming conditions and support trending analyses (Process/Quality Escapes)
13) Participate in problem and failure investigations to determine root cause and corrective action

Project Assurance (PWS Section 8.0)

1) Participate in and provide assessments to the milestone, data, safety and flight readiness or operations reviews
2) Coordinate the HEI S&MA activities with the S&MA project lead to include resource status
3) Serve as expert advisor on S&MA topics for project team meeting, TIM's, problem investigations, etc.
4) Track S&MA project team action items and issues
5) Coordinate the development of Fault Tree Analysis (FTA) performed by discipline - (if deemed necessary; if not in-house then contractor may perform)
6) Participate in Postflight assessment of SRB and RSRM hardware at KSC and Thiokol refurbishment facility
7) Provide logistical coordination for element PFA review and submit quality records to the PAR Coordinator

Deliverables:

Safety

1) Safety inputs to engineering changes, verifications, etc.
2) Safety review comments to Milestone Review documentation
3) Safety Assessments for Class One Changes and out-of-family issues

R&M

1) Reliability inputs to engineering changes, etc.
2) Reliability review comments to Milestone Review documentation
3) FMEA/CIL or Reliability Assessments for Class One Changes and out-of-family issues

Quality

1) Quality input to engineering changes, problem analyses, etc.
2) Review comments for Milestone Review documentations
3) Inspection reports

Project Assurance

1) Provide periodic status of functional discipline support to project in form of matrix
2) Coordinate development of PAR one page assessments and presentations
3) Flight Readiness/PAR data as applicable
4) Report Postflight assessment status

Schedules/Duration:

1) Support schedules as defined by the Project
2) Through duration of contract

Resource Estimate:

(b)(4)

Report Progress To: *S&MA Project Lead*		Frequency of Report:
NEIL Hooten		Weekly